Kidney International, Vol. 45 (1994), p. 299

Introduction

During the last 10 to 15 years a considerable body of information has accumulated about the normal and abnormal glomerulus. There have been major advances in basic science as well as in the understanding of the pathophysiology of glomerular disease. To date, however, this knowledge has been scattered in separate journals and books. We felt for some time the need for a comprehensive review of this subject to bring together the important developments in one volume. This issue of *Kidney International* attempts to fill the need.

The first part reviews advances obtained from *in vitro* and tissue culture studies. It begins with an analysis of the individual native cells of the glomerulus with particular reference to their cell biology. The subject then extends to the development and nature of the glomerular matrix. Further chapters consider factors involved in pathological processes including cytokines, inflammatory cells, scarring and matrix degradation. The final part of this section analyses the all important question as to how far tissue culture studies are relevant to the glomerulus *in vivo*.

The second part of the symposium considers various aspects of normal and abnormal glomerular biology. The relation of structure to function is analyzed as is the influence of heredity on disease expression. The physical processes involved in glomerular filtration are next detailed, including those endogenous and exogenous factors which can alter glomerular function. In view of its major importance as a cause of renal failure, the effect of diabetes on glomerular structure and function is specifically analyzed. Finally, pathogenic factors such as hypertension, glomerular capillary pressure and proteinuria are discussed.

We have been fortunate to obtain the services of a distinguished group of authors, each of whom is an acknowledged international expert in his or her field. We are grateful to them for so generously contributing to this issue. We are sure these efforts will be of value to all who are interested in the glomerulus, from basic scientists to clinicians.

GERALD A. COLES,
MALCOLM DAVIES, and
JOHN D. WILLIAMS
Guest Editors

Received for publication August 20, 1993